Listing of Claims:

Please **amend** the claims as follows:

Claim 1 **(Cancelled)**

Claim 2 **(Cancelled)**

Claim 3 **(Cancelled)**

Claim 4 **(Cancelled)**

Claim 5 **(Cancelled)**

Claim 6 **(Cancelled)**

Claim 7 **(Cancelled)**

Claim 8 **(Cancelled)**

Claim 9 **(Cancelled)**

Claim 10 **(Cancelled)**

Claim 11 **(Cancelled)**

Claim 12 **(Cancelled)**

Claim 13 **(Cancelled)**

Claim 14 **(Cancelled)**

Claim 15 **(Cancelled)**

Claim 16 **(Cancelled)**

Claim 17 **(Cancelled)**

Claim 18 **(Cancelled)**

Claim 19 **(Cancelled)**

Claim 20 **(Canceled)**

Claim 21 **(Cancelled)**

Claim 22 (Previously Presented) An isolated naturally-occurring mutant human aspartoacylase polypeptide either an altered ability to hydrolyze N-acetyl-aspartic acid to aspartate and acetate, as compared with a wild-type human aspartoacylase, or incapable of hydrolyzing N-acetyl-aspartic acid to aspartate and acetate, and comprising the amino acid sequence SEQ ID NO: 2 of wild-type human aspartoacylase, except for said mutation, which is

E285 > A,

Y231 > X, and/or

A305 > E,

or a naturally-occurring mutant allele of said wild-type human aspartoacylase.

Claim 23 (Cancelled)

Claim 24 (Previously Presented) A mutant aspartoacylase of claim 22, wherein the glutamic acid at amino acid position 285 is substituted by alanine.

Claim 25 (Cancelled)
Claim 26 (Cancelled)
Claim 27 (Cancelled)
Claim 28 (Cancelled)
Claim 29 (Cancelled)
Claim 30 (Cancelled)
Claim 31 (Cancelled)
Claim 32 (Cancelled)

Claim 33 **(Cancelled)**

Claim 34 **(Cancelled)**

Claim 35 **(Cancelled)**

Claim 36 **(Cancelled)**

Claim 37 **(Cancelled)**

Claim 38 **(Cancelled)**

Claim 39 **(Cancelled)**

Claim 40 **(Cancelled)**

Claim 41 **(Cancelled)**

Claim 42 **(Cancelled)**

Claim 43 **(Cancelled)**

Claim 44 **(Cancelled)**

Claim 45 **(Cancelled)**

Claim 46 **(Cancelled)**

Claim 47 **(Cancelled)**

Claim 48 **(Cancelled)**

Claim 49 **(Cancelled)**

Claim 50 **(Cancelled)**

Claim 51 **(Cancelled)**

Claim 52 **(Cancelled)**

Claim 53 **(Cancelled)**

Claim 54 **(Cancelled)**

Claim 55 **(Cancelled)**

Claim 56 **(Cancelled)**

Claim 57 **(Cancelled)**

Claim 58 **(Cancelled)**

Claim 59 **(Cancelled)**

Claim 60 **(Cancelled)**

Claim 61 **(Cancelled)**

Claim 62 **(Cancelled)**

Claim 63 **(Previously Presented)** A transgenic mouse exhibiting Canavan disease symptoms.

Claim 64 **(Cancelled)**

Claim 65 **(Cancelled)**

Claim 66 **(Previously Presented)** A fragment of a mutant human aspartoacylase of claim 22, comprising an aspartoacylase epitope which is immunologically-effective to elicit antibodies that selectively bind to said human aspartoacylase.

Claim 67 **(Previously Presented)** A recombinant wild-type human aspartoacylase capable of hydrolyzing N-acetyl aspartic acid to aspartate and acetate, comprising an amino acid sequence which has a sequence identity of at least 95% to the sequence of SEQ ID NO: 2.

Claim 68 **(Previously Presented)** A fragment of a recombinant wild-type human aspartoacylase of claim 67, comprising an aspartoacylase epitope which is immunologically-effective to elicit antibodies that selectively bind to said human aspartoacylase.

Claim 69 **(Previously Presented)** A pharmaceutical composition, comprising an isolated wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof, and a pharmaceutically acceptable carrier.

Claim 70 **(Previously Presented)** An isolated normal human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof, which is free of other cellular components.

Claim 71 **(Previously Presented)** An isolated normal-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof, which is free of other human proteins.

Claim 72 **(Previously Presented)** A preparation which consists essentially of a wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof.

Claim 73 **(Previously Presented)** An isolated wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or a naturally-comprising polymorphic form thereof, in a concentration which can be administered to a patient at a dosage of 0.1 to 100 U/kg.

Claim 74 **(Previously Presented)** A wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof, produced by

(a) culturing a host cell transformed with a vector comprising a DNA which encodes for a normal human aspartoacylase of claim 80 in a cell culture medium under conditions whereby the aspartoacylase is expressed, and

(b) isolating the thus-produced wild-type aspartoacylase.

Claim 75 **(Previously Presented)** A wild-type human aspartoacylase comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof, produced in a bacterium, a fungus, or a non-human mammalian cell.

Claim 76 **(Withdrawn)** An immunologically active anti-aspartoacylase polycolonal or monoclonal antibody specific for an aspartoacylase polypeptide of claim 20.

Claim 77 **(Withdrawn)** An immunologically active anti-aspartoacylase polyclonal or monoclonal antibody specific for an aspartoacylase polypeptide of claim 22.

Claim 78 **(Withdrawn)** A hybridoma producing a moloclonal antibody specific for an aspartoacylase polypeptide of claim 20.

Claim 79 **(Withdrawn)** A hybridoma producing a moloclonal antibody specific for an aspartoacylase polypeptide of claim 22.

Claim 80 **(Previously Presented)** A recombinant wild-type human aspartoacylase capable of hydrolyzing N-acetyl aspartic acid to aspartate and acetate, comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof.

Claim 81 **(Previously Presented)** A wild-type human aspartoacylase polypeptide purified to homogeneity and capable of hydrolyzing N-acetyl-aspartic acid to aspartate and acetate.

Claim 82 **(Previously Presented)** The aspartoacylase of claim 81 having SEQ ID NO: 2.

Claim 83 **(Previously Presented)** An isolated polypeptide of claim 22 which is encoded by a nucleic acid which specifically hybridizes under stringent conditions to a nucleotide sequence of SEQ ID NO:1.

Claim 84 **(Previously Presented)** An isolated polypeptide of claim 66 which is encoded by a nucleic acid which specifically hybridizes under stringent conditions to a nucleotide sequence of SEQ ID NO:1.

Claim 85 **(Previously Presented)** An isolated polypeptide of claim 67 which is encoded by a nucleic acid which specifically hybridizes under stringent conditions to a nucleotide sequence of SEQ ID NO:1.

Claim 86 **(Previously Presented)** An isolated polypeptide of claim 68 which is encoded by a nucleic acid which specifically hybridizes under stringent conditions to a nucleotide sequence of SEQ ID NO:1.

Claim 87 **(Previously Presented)** An isolated polypeptide of claim 71 which is encoded by a nucleic acid which specifically hybridizes under stringent conditions to a nucleotide sequence of SEQ ID NO:1.

Claim 88 **(Previously Presented)** An isolated polypeptide of claim 72 which is encoded by a nucleic acid which specifically hybridizes under stringent conditions to a nucleotide sequence of SEQ ID NO:1.

Claim 89 **(New)** An isolated wild-type human aspartoacylase capable of hydrolyzing N-acetyl aspartic acid to aspartate and acetate, comprising the amino acid sequence SEQ ID NO: 2, or a naturally-occurring polymorphic form thereof, which is produced by expressing a DNA coding for said aspartoacylase in a host cell.

Claim 90 **(New)** An isolated wild-type human aspartoacylase of claim 89, comprising the amino acid sequence SEQ ID NO: 2.

Claim 91 **(New)** An isolated naturally-occurring mutant human aspartoacylase polypeptide having either an altered ability to hydrolyze N-acetyl-aspartic acid to aspartate and acetate, as compared with a wild-type human aspartoacylase, or incapable of hydrolyzing N-acetyl-aspartic acid to aspartate and acetate, and comprising the amino acid sequence SEQ ID NO: 2 of wild-type human aspartoacylase, except for said mutation, which is

E285 > A,

Y231 > X, and/or

A305 > E,

or a naturally-occurring mutant allele of said wild-type human aspartoacylase, wherein said polypeptide is produced by expressing a DNA coding for said aspartoacylase in a host cell.